DATASHEET ALTERNATOR

Alternator ref. KH01340T
Alternator type KH01340TN4N

-GENERAL CHARACTERISTICS-

Voltage Type (V)	400/230	**Altitude (m)**	0-1000
Number of Phase	Three phase	**AVR Regulation**	Yes
Number of pole	4	**Indication of protection**	IP23

Capacity for maintaining short circuit at 3 In for 10 s No
Winding type Standard

Efficiency & Power

Frequency (Hz) 50 Hz **Nominal voltage (V)** 400

	Class H				Class F	Class B
	125°C/ 40°C continuous	130°C/ 25°C standby	150°C/ 40°C standby	163°C/ 27°C standby	105°C/ 40°C continuous	80°C/ 40°C continuous
Nominal Rating(Kva)	150	150	158	165	137	120
Nominal Rating(KW)	120	120	126.4	132	109.6	96
Efficiency 100%	92.9	92.9	92.7	92.6	93.1	93.3

-ELECTRICAL CHARACTERISTICS-

Voltage regulation at established rating (+/- %)	0.5
Insulation class	H
T° class (H/125°), continuous 40°C	H / 125°K
T° class (H/163°C), standby 27°C	H / 163°K
Wave form : NEMA=TIF	<50
Unbalanced load acceptance ratio (%)	100
Number of wires	12
Total Harmonic Distortion in no-load DHT (%)	<2
Wave form : CEI=FHT	<2
Total Harmonic Distortion, on linear load DHT (%)	<5
Technology	Without collar or brush
L-L Harmonic Maximum - Single (%)	18
Deviation Factor (%)	3
Shaft Current	
Main Stator Capacitance to ground (mdf)	

Reactances

Direct axis synchro reactance unsaturated (Xd) (%)	305
Direct axis transcient reactance saturated (X'd) (%)	14.6
Direct axis subtranscient reactance saturated (X''d) (%)	8.8
Quadra axis synchro reactance unsaturated (Xq) (%)	155
Quadra axis subtranscient reactance saturated (X"q) (%)	17.4
Zero sequence reactance unsaturated (Xo) (%)	0.6
Negative sequence reactance saturated (X2) (%)	13.11

Short circuit ratio

Short circuit ratio (Kcc)	0.487
Subtranscient time constant (T"d) (ms)	10

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Short circuit transcient time constant (T'd) (ms)	100
Open circuit time constant (T'do) (ms)	2077
Subtranscient time constant (T"q) (ms)	10
Leakage stator reactance (Xa)(%)	0.73
Stator Resistance (Ra)(%)	0.022
Armature time constant (Ta) (ms)	15
No load excitation current (io) (A)	0.67
Full load excitation current (ic) (A)	2.45
Full load excitation voltage (uc) (V)	29.9
Heat rejection (W)	9127.9
No load losses (W)	2861.03
Stator resistance (for 20°C ambient) (Ω)	0.0236
Rotor resistance (for 20°C ambient) (Ω)	3.43285
Exciter resistance - stator/inductor (for 20° ambient) (Ω)	12.941
Exciter resistance - rotor/armature (for 20° ambient) (Ω)	0.459
Recovery time (Delta U = 20% transcient) (ms)	500
Engine start (Delta U = 20% perm. or 30% trans.) (kVA)	324.07
Transcient dip (4/4 load) - PF : 0,8 AR (%)	13

Additional electrical characteristics-

Winding X1, X2 auxiliary resistance (for 20° ambient) (Ω)	0
Auxiliary winding X1, X2 excitation voltage at no load (V)	0
Auxiliary winding X1, X2 excitation voltage on load (V)	
Winding Z1, Z2 auxiliary resistance (for 20° ambient) (Ω)	0
Auxiliary winding Z1, Z2 excitation voltage at no load (V)	0
Auxiliary winding Z1, Z2 excitation voltage on load (V)	

-MECHANICAL CHARACTERISTICS-

Number of bearing	1
Overspeed (rpm)	2250
Coupling	Direct

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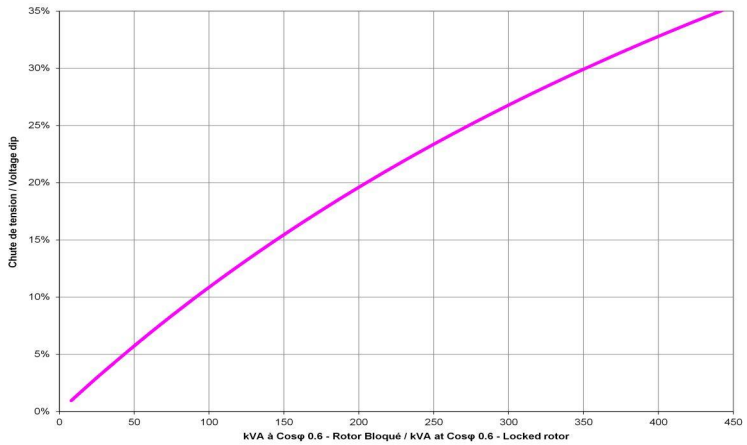
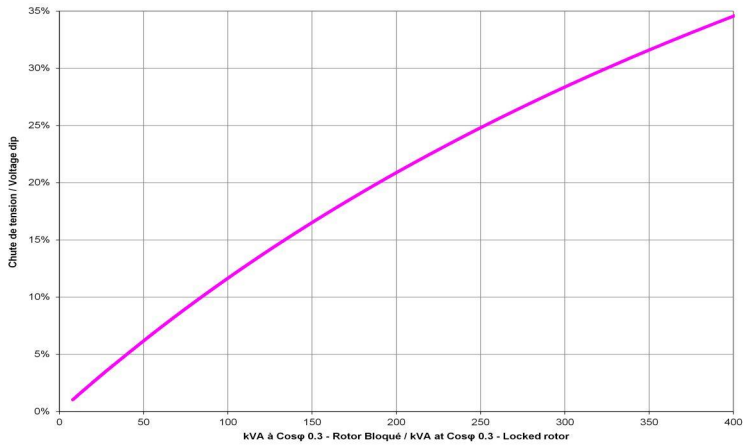
-TECHNICAL CURVES-

Motor starting curve locked rotor (0,6PF)



Motor starting curve locked rotor (0,3PF)



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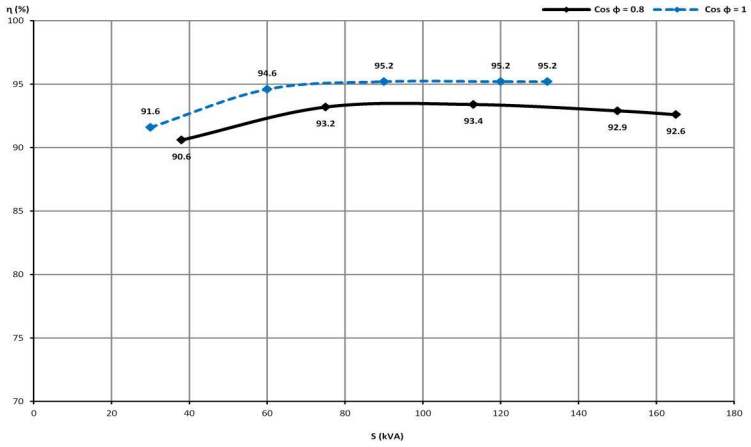
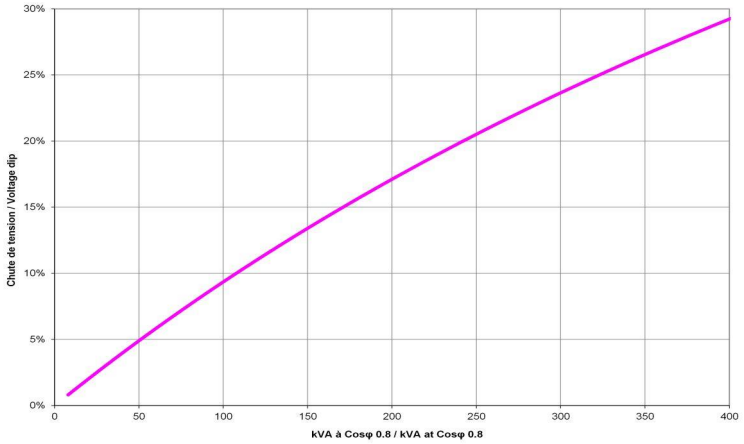
Efficiencies curve (by excitation system)



Loading curve (by excitation system)



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Short circuit curve at no load and rated speed

Influence due to connection

Curves shown are for star (Y) connection

For other connections, use the following multiplication factors :

- Series delta : current value x 1.732
- Parallel star : current value x 2

Influence due to short-circuit

Curves are based on a three-phase short-circuit. For the other types of short-circuit, use the following multiplication factors :

(*) Capacity for maintaining short circuit at 3 In for 10 s = YES

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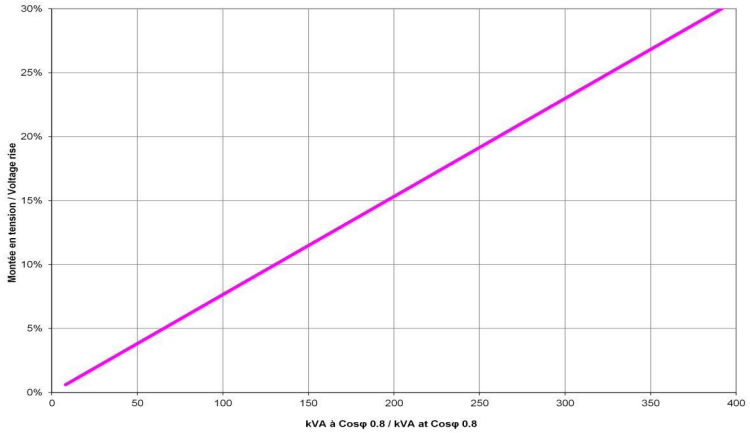
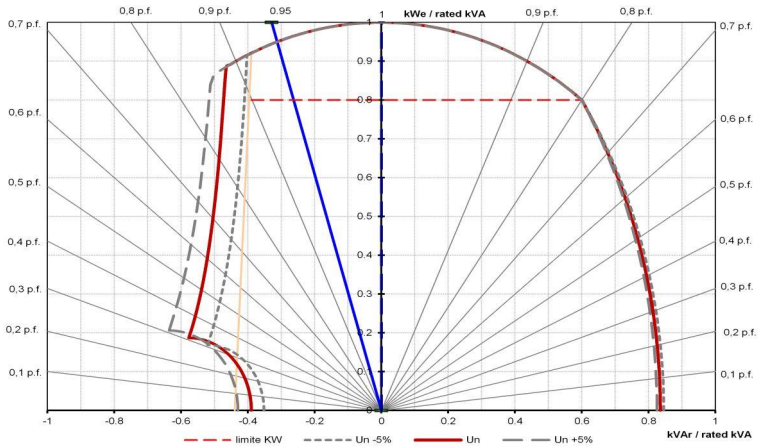
Rejection curve (by excitation system)



Capability curve (PQ diagram)



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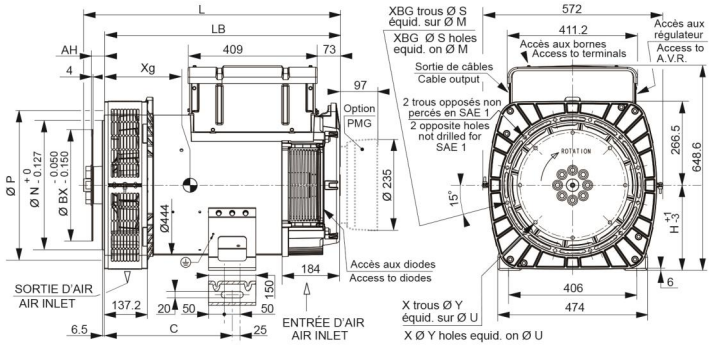
DIMENSIONS-

Overall dimension drawing (Single bearing)



Dimensions (mm)							Accouplement / Coupling				
Type	L	LB	Xg	C	H(*)	Masse/Weight (kg)	Bride/Flange Disque/Flex.	1	2	3	4
ALT -KH00750	743	677	313	405	270	295	**14**	x	-	-	-
ALT -KH00751	743	677	313	405	270	295	**11 1/2**	x	x	x	-
ALT -KH00910	743	677	329	405	270	332	**10**	x	x	x	x
ALT -KH00911	743	677	329	405	270	332	**8**	-	-	x	x
ALT -KH01050	813	747	353	405	270	368					
ALT -KH01190	813	747	365	405	270	398					
ALT -KH01340	854	787	383	405	270	433					

(*) H = 225 option (C = 332.5 / 406 = 356) demander le plan / drawing available upon request .

Bride / Flange (mm)						Disque / Flex plate (mm)					
S.A.E.	P	N	M	S	XBG	S.A.E.	BX	U	X	Y	AH
4	530	361.95	381	11	12	**14**	466.72	438.15	8	14	25.4
3	530	409.575	428.62	11	12	**11 1/2**	352.42	333.38	8	11	39.6
2	530	447.675	466.725	11	12	**10**	314.32	295.28	8	11	53.8
1	560	511.18	530.22	12	10	**8**	263.52	244.48	6	11	62

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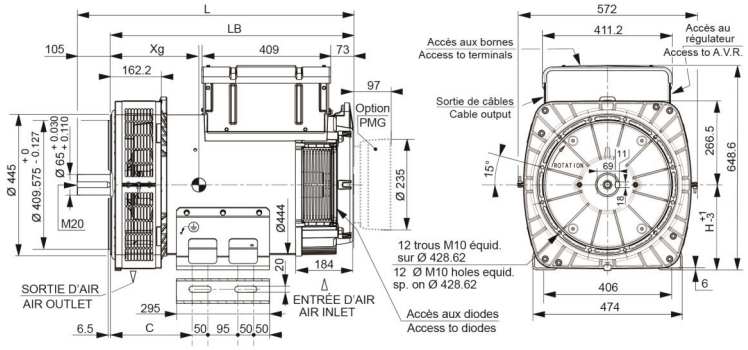
Overall dimension drawing (Two bearings)



Dimensions (mm)						
Type	L	LB	Xg	C	H(*)	Masses/Weight (kg)
ALT -KH00750	807	702	333	260	270	301
ALT -KH00751	807	702	333	260	270	301
ALT -KH00910	807	702	350	260	270	338
ALT -KH00911	807	702	350	260	270	338
ALT -KH01050	877	772	373	260	270	374
ALT -KH01190	877	772	385	260	270	404
ALT -KH01340	907	812	403	260	270	439

(*) Hauteur d'axe H = 225 disponible en option (C = 237.5 / 406 = 356) demander le plan.
(*) Shaft height H = 225 optional (C = 237.5 / 406 = 356) drawing available upon request.

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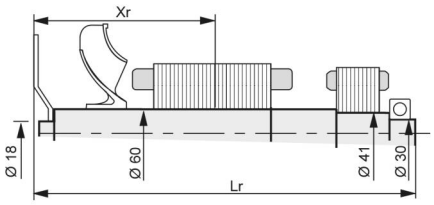
-TORSIONAL ANALYSIS DATA-

Rotation part drawing for torsional vibration calculation (Single bearing)



Centre de gravité : Xr (mm), Longueur du rotor Lr (mm), Masse du rotor : M (kg), Moment d'inertie : J (kgm²) : (4J = MD²)
Centre of gravity: Xr (mm), Rotor length: Lr (mm), Weight: M (kg), Moment of inertia: J (kgm²): (4J = MD²)

Disque / Flex plate	S.A.E. 8				S.A.E. 10				S.A.E. 11 1/2				S.A.E. 14			
Type	Xr	Lr	M	J	Xr	Lr	M	J	Xr	Lr	M	J	Xr	Lr	M	J
ALT - KH00750	356	724	118	0.841	348	716	118	0.854	334	702	117	0.869	320	690	120	0.993
ALT - KH00751	356	724	118	0.841	348	716	118	0.854	334	702	117	0.869	320	690	120	0.993
ALT - KH00910	376	724	134	0.992	363	716	134	1.005	349	702	133	1.020	335	690	136	1.144
ALT - KH00911	376	724	134	0.992	363	716	134	1.005	349	702	133	1.020	335	690	136	1.144
ALT - KH01050	394	794	149	1.108	385	786	149	1.121	372	772	148	1.136	357	760	150	1.260
ALT - KH01190	411	794	161	1.215	403	786	161	1.228	390	772	160	1.243	375	760	162	1.367
ALT - KH01340	431	834	176	1.350	423	826	176	1.363	410	812	175	1.378	395	800	178	1.502

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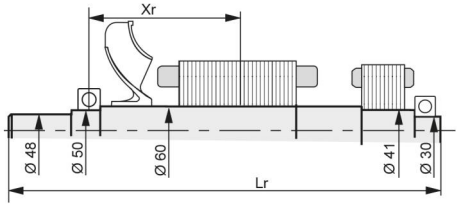
Rotation part drawing for torsional vibration calculation (Two bearings)



Centre de gravité : Xr (mm), Longueur du rotor Lr (mm), Masse du rotor : M (kg), Moment d'inertie : J (kgm²) : (4J = MD²)
Centre of gravity: Xr (mm), Rotor length: Lr (mm), Weight: M (kg), Moment of inertia: J (kgm²): (4J = MD²)

Type	Xr	Lr	M	J
ALT -KH00750	330	807	112	0.815
ALT -KH00751	330	807	112	0.815
ALT -KH00910	346	807	128	0.966
ALT -KH00911	346	807	128	0.966
ALT -KH01050	374	877	143	1.082
ALT -KH01190	387	877	155	1.189
ALT -KH01340	407	907	171	1.324